

Current cholera epidemics in west Africa and risks of imported cases in European countries

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The summer of 2005 has been marked by a wave of cholera outbreaks in west Africa [1]. Several outbreaks of varying intensity are currently occurring in Senegal, Burkina Faso, Mali, Guinea, Guinea-Bissau, Niger, Mauritania, Liberia and Nigeria [2]. Cases were imported from Senegal to Gambia in the spring of 2005 but there was no reported subsequent large-scale epidemic [3]. No epidemics have been notified in Côte d'Ivoire, Benin, Togo, Ghana or Sierra Leone since the beginning of 2005.

Although particularly intense and spectacular when compared with recent years, the outbreaks of 2005 were expected and have occurred within the context of cyclical patterns of *Vibrio cholerae* circulation. The outbreaks are a continuation of the seventh world cholera pandemic, which began in 1961, and is due to *V. cholerae* serogroup O1 biotype El Tor [4,5]. The pandemic reached Africa in 1970 [5] and had spread to all countries of the continent by 2001. In 2004, 56 countries officially notified 101 383 cases (including 2345 deaths) to the World Health Organization (WHO) [6], of which 95 560 cases were notified by 31 African countries.

With the exception of Burkina Faso and Mauritania, all the countries with outbreaks in 2005 had also notified cholera cases to WHO in 2004. Furthermore, the *V. cholerae* strains isolated during the various epidemics in 2005 have stable microbiological and antibiotic resistance profiles [JM Fournier, personal communication, 23 August 2005]. Endemic poverty, summer rains, poor health and living conditions - and, in some countries, the current food crisis - are all probable contributing factors to the particularly high incidence and/or mortality rates observed.

The situation in west Africa does not require current management or preparedness protocols to be altered in France. Although the risk of imported cases is real [7], the likelihood of secondary transmission remains extremely low in the European context, where sanitation, hygiene, healthcare structures and surveillance systems are well developed and readily accessible. If imported cases do occur, they nevertheless require systematic investigation to identify potential contacts or common sources such as imported non-industrial foods which may harbour *V. cholerae* [4,8,9,10].

In France, the epidemiological profile of imported cases has changed over the past decade. Cases in mainland France in the 1980s were mostly in migrants returning from the north or sub-Saharan Africa, and were typically diagnosed at healthcare centres in large French metropolitan areas. Since the end of the 1990s, however, the number of cases has gone down significantly and some cases have been diagnosed in smaller cities in French nationals returning from holidays in countries such as Peru, Indonesia, India, Pakistan and sub-Saharan Africa. It is estimated that under 10% of cholera infections present with symptoms of vomiting and stools resembling rice water; most cases are associated with few or no clinical signs [4], and clinicians should therefore consider cholera as a possible diagnosis in any patient returning from abroad with mild gastrointestinal symptoms.

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